

ABSTRACT

Singapore is one of the fastest ageing populations in the world. With this, there will a higher demand for health and social care services, especially because of the higher prevalence of chronic diseases and the associated cognitive and physical disability. With frailty and disability, the psychosocial determinants of health become ever more compelling. Primary Care plays a crucial role in the care of frail seniors with complex needs because of its accessibility, comprehensiveness, community-focus, continuity and thus its ability to integrate and coordinate all the care partners into a coherent team. There are a few primary care models that have been codified based on these principles, such as the Patient-centered Medical Home, the Age-friendly Primary Health Care Centre and the Home-based Primary Care. These models require tremendous commitment and effort, and resources to materialize. However, there are a few operational and clinical practices that family doctors in Singapore can adopt that will help seniors with complex needs. These are: relationship-based practice; patient-centred access; team-based care; special attention on transition; comprehensive needs assessment; care planning; medications and specialist appointment reviews; care communication and support for caregivers.

Keywords: Primary Care; Complex Needs; Comprehensive Needs Assessment; Patient-centered Medical Home; Person-centred Care; Long Term Care; Care Planning; Age-friendly Primary Healthcare Centres; Home-based Primary Care;

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“To care is to help another person grow.” -
Dr William Thomas, MD. Founder, Eden Alternative

INTRODUCTION

Singapore is one of the fastest ageing countries in the world. This is largely due to the declining fertility rate and, to some extent, contributed to by the rising life expectancy at birth. The latter is a happy problem resulting from years of economic and social development, and a successful public health effort in preventing diseases.

Even with the best disease prevention and health promotion efforts, the sheer number of very old seniors would mean more people living with degenerative, chronic disease conditions and the disability they cause, such as diabetes mellitus, visual

impairment, hearing impairment, osteoporotic fractures, osteoarthritis, stroke, ischaemic heart disease and heart failure, dementia, and other mental health disorders. In fact, a recent study by the Institute of Mental Health showed a dementia prevalence of 10 percent.¹

NEEDS OF FRAIL SENIORS**The Dynamic Bio-Psychosocial Model of Health and Resilience**

There has been a recent update of the definition of health as an ability to adapt and self-manage, recognising the dynamic inter-dependence of the bio-psycho-social domains of a person.²

Indeed, functional status in frail seniors is a result of the specific biophysical conditions, interacting with the psychological state as well as the social network and environment.

In order to effectively care for a senior with complex needs, the clinician needs to fully appreciate the vulnerabilities and strengths in all the bio-psychosocial domains, as well as the motivation of the “personhood”.

The appreciation of the strengths and resources are particularly important, as ignoring them will only result in learned helplessness and worsened ageism.

As such, Comprehensive Needs Assessment (for complex patients) or Comprehensive Geriatric Assessment (for frail seniors), and the development of care plan are crucial steps in the care of seniors with complex needs. (See Figure 1 and Table 1.)

The Person-centred Care Philosophy

“Person-centred care” means that individuals’ values and preferences are elicited and, once expressed, guide all aspects of their healthcare, supporting their realistic health and life goals. Person-centred care is achieved through a dynamic relationship among individuals, others who are important to them, and all relevant providers. This collaboration informs decision-making to the extent that the individual desires.³

In order to positively impact the wellbeing of patients who present with many, and sometimes conflicting, clinical bio-psychosocial needs and wants, it is not enough for the primary care doctor to only focus on simply finding a diagnosis, or making a multi-disciplinary problem list and a care plan based on the list, aiming simply for “cure” or control of the problems. Prioritisation of care interventions depends on the goal of care, which is usually best established through a communication process involving the patient, the caregivers and the clinicians. For example, a patient with a recent stroke should aim for rehabilitation rather than mere control of hypertension and

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Figure 1: Domains of Comprehensive Needs/Geriatric Assessment

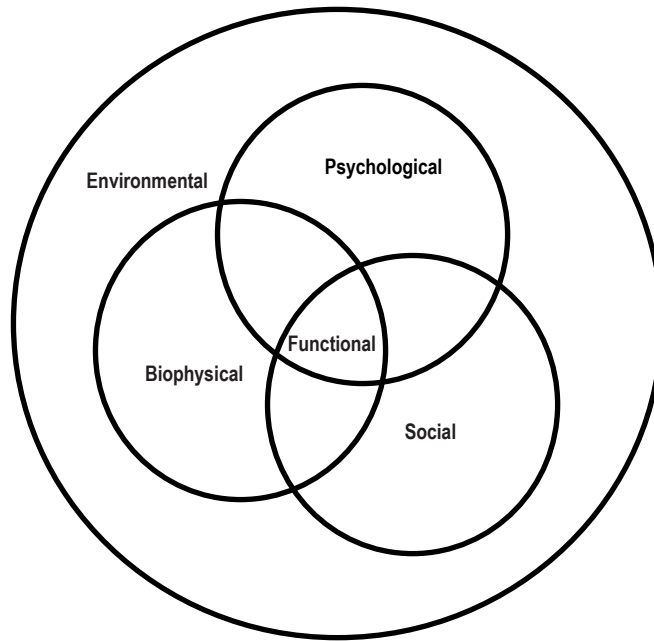


Table 1: Domains of Assessment for Frail Seniors

1. Biophysical	<ul style="list-style-type: none"> • Background medical conditions and preventive health history • Present Complaints • Medications and Adherence • Systems review especially nutrition, pain, sleep, appetite, weight, vision, hearing, bladder and bowel movement, fall history
2. Functional Assessment	<ul style="list-style-type: none"> • Basic ADL • Instrumental ADL • Safety and Fall Risk
3. Psychological	<ul style="list-style-type: none"> • Cognition and decision making capacity • Mood • Perceptions, motivation and personal goals
4. Social	<ul style="list-style-type: none"> • Quantity and quality of informal social network • Caregiving arrangement and Caregiver • Financial resources • Formal community network and services
5. Environmental	<ul style="list-style-type: none"> • Home and community physical environment that impacts on safety, access and hygiene

anti-thrombotic therapy. Similarly, a family experiencing a care-giving crisis should have it resolved before discussion about diabetes control. More importantly, frail seniors with very poor prognosis might appreciate palliative care options over tight controls of chronic diseases.

An important practical aspect of person-centred care is the development of a trusting care partnership between the clinician

and the frail senior. This requires skills in human-to-human connection and a commitment that spans years. Many family physicians are in an excellent position to deliver person-centred care.

Disability and the Need for Long-term Care

Long-term care (LTC) is defined as “a range of services and supports needed to meet personal care and health needs over an

extended period of time”⁴. Most LTC is not medical care, but rather assistance with the basic personal tasks of everyday life, sometimes called “Activities of Daily Living” or ADLs. Examples of ADLs are feeding, dressing, bathing, transferring, mobility, and toilet use. Other common LTC supports include assistance with everyday tasks, sometimes called “Instrumental Activities of Daily Living” or IADLs. Examples of IADLs include shopping, meal preparation, house chores, taking medications, using public transport, responding to an emergency, making phone calls, etc.

LTC in Singapore can be divided into two broad categories: institutional care and non-institutional care. Most LTC is actually provided in non-institutional settings, by informal caregivers such as family members, and supported by community-based long-term care service providers.

It is important for family doctors caring for frail seniors to recognise the role of the informal caregivers, and to appreciate the resources available for frail seniors living at home. Even while long-term care is received by the frail senior, primary healthcare still plays an essential role across a person’s life course, through robust health when the focus is on health maintenance, to extreme frailty near the end of life. (See Figure 2.)

PRIMARY CARE AND ITS ROLE IN AGEING

The benefits of primary care for people and society has been well established. Primary care has been shown to improve population and community health, reducing inequity, responding to diverse population health needs, and improving efficiency of healthcare

systems. Primary care thus must take a lead in tackling the challenges on health due to ageing, both individually as well as at community and population levels.

- Primary Care is broadly defined based on 4 guiding principles⁶:
1. Accessibility as the first contact with the healthcare system;
 2. Comprehensiveness in the accountability for addressing a large majority of personal healthcare needs;
 3. Coordination of care across settings, and integration of care of acute and (often co-morbid) chronic illnesses, mental health and prevention, guiding access to more narrowly focused care when needed; and
 4. Sustained partnership and personal relationships over time with patients known in the context of family and community.

These characteristics of primary care are especially important in caring for the complex patients, such as frail seniors, as frail seniors tend to have multiple biopsychosocial needs that are accumulated over long durations and can change over time, sometimes acutely, needing different service resources.

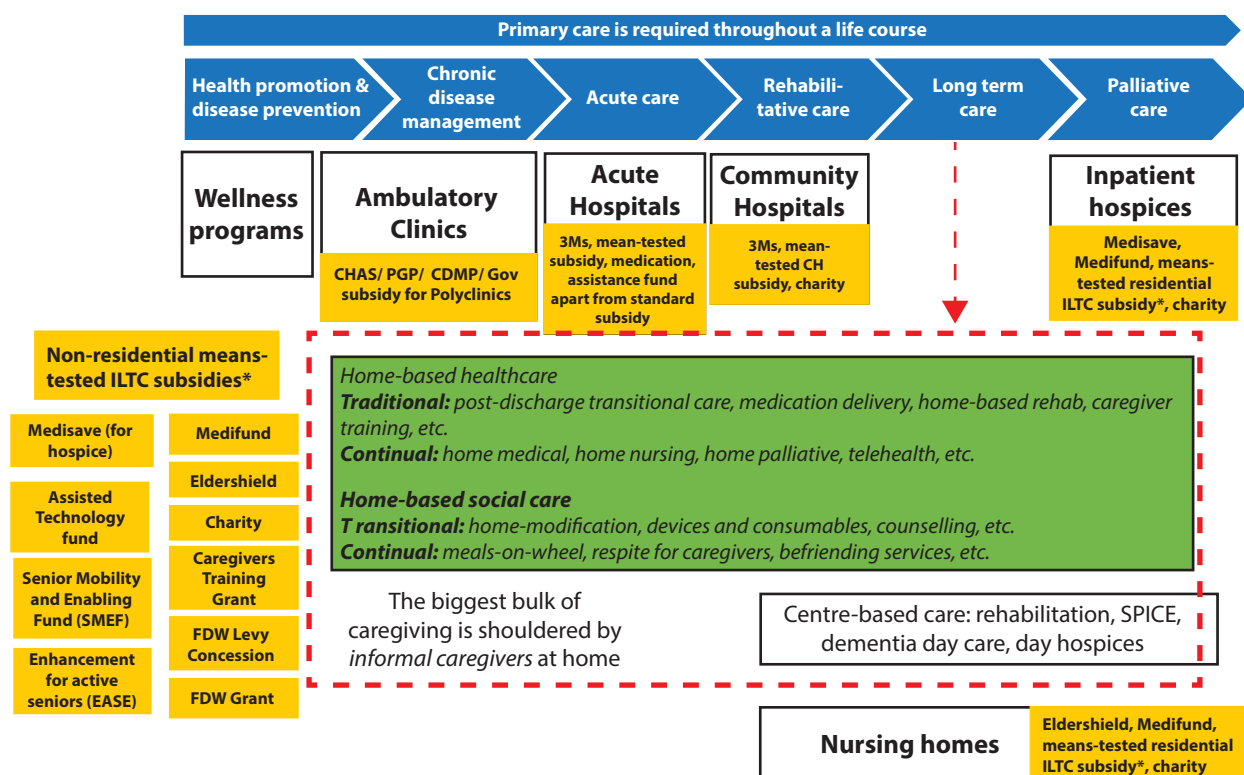
Primary Care Practice Models for Frail Seniors

Based on the primary care principles, there are a few models specifically suited to complex patients, and frail seniors, three of which will be described here.

The “patient-centred medical home”

The patient-centred medical home (PCMH) has emerged as a leading effort in the United States to reform the healthcare system by re-establishing the role of primary care as a means to increase the value of healthcare⁷, especially at a time when

Figure 2: Care Needs and Resources for Seniors Across the Life Course



Source: Lim and Ng, 2016

3Ms: Medisave, Medishield, Medifunds; *per capita monthly household incomes \$2600

healthcare cost rises with advancing medical technology and the ageing population. In 2007, the 4 major primary care physician associations, American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians and the American Osteopathic Association, produced *the Joint Principles of the Patient-centered Medical Home*.

Since then, the principles have evolved to encompass the five principles by the Patient-centered Primary Care Collaborative⁸ as follows:

- **Patient-centred:** A partnership among practitioners, patients, and their families ensures that decisions respect patients' wants, needs, and preferences, and that patients have the education and support they need to make decisions and participate in their own care.
- **Comprehensive:** A team of care providers is wholly accountable for a patient's physical and mental healthcare needs, including prevention and wellness, acute care, and chronic care.
- **Coordinated:** Care is organised across all elements of the broader healthcare system, including specialty care, hospitals, home healthcare, community services and supports.
- **Accessible:** Patients are able to access services with shorter waiting times, "after hours" care, 24/7 electronic or telephone access, and strong communication through health IT innovations.
- **Committed to quality and safety:** Clinicians and staff enhance quality improvement to ensure that patients and families make informed decisions about their health.

Age-friendly Primary Healthcare Centres

In 2002, in response to the health needs of the ageing population worldwide and especially in the developing economies, while recognising the important role Primary Health Centres play in health promotion and disease prevention, as well as chronic disease management for older persons, the World Health Organization developed the Age-friendly Primary Healthcare Centres Toolkit, in collaboration with many non-governmental organisations and primary care clinics, including those from Singapore. In this toolkit, which can be downloaded from <http://www.who.int/ageing/publications/en/> together with the forms and training material, there are three main areas that make it user-friendly and responsive to older persons:

- Gerontological competencies of the staff;
- Age-friendly operations; and
- Universal design.

Home-based primary care

There are old patients of ours who might become so frail and disabled that it is no longer feasible for them to come to our clinics for consultation. Even though the bulk of care is nursing care and assistance in ADLs, a physician is needed to guide the optimal care of the various chronic diseases, manage the occasional acute exacerbations of chronic illnesses and diseases, advocate and link the patient and his/her caregivers to community and hospital resources, review and continue

long-term medications, give guided prognoses, and advise the patient and family on care priorities. Visiting nurses and other allied health workers need the support of a doctor, especially one who knows the patient well, and is committed to the wellbeing of the patient, such as the primary care doctor. However, house calls are high-cost services.

In a Cochrane systemic review of 9 home-based primary care programme evaluations that measured health service utilisations as outcomes that cover over 46,000 homebound elders, it was found that home-based primary care substantially reduced hospital utilisations. In the study, 4 operational practices were identified among these successful programmes⁹:

- Inter-professional health team;
- 24-hour support;
- Regular (at least weekly) interdisciplinary group meetings; and
- Comprehensive geriatric assessments at intake with care planning.

Useful Clinic Operational Processes for Complex Seniors

Based on the learning from the above models of primary care, as well as the Standards and Guidelines for the National Committee on Quality Assurance's Patient-centred Medical Home (PCMH) 2014, these are some of the recommendations for clinic operations:

1. Relationship-based practice and "medical home" responsibilities

The clinic should provide continuity of care and maintain a registry of its patients, especially those suffering from chronic illness or who are frail and have multiple health conditions. In a group practice, as far as possible, patients should be seen by the same doctor at each appointment. There should be appointments given to these patients for regular follow-up reviews and the appointments should be tracked. If the patients were to default the scheduled appointment, efforts should be made to contact them. Medical records of these patients should contain information related to health promotion and disease prevention, such as vaccinations and appropriate regular health screening. The clinic should maintain an updated medical history and an updated medication list of these patients. The clinic coordinates care across multiple care settings and is the "go-to" health partner when the patient, his/her family and other service providers need information and guidance regarding the patient's medical care.

2. Patient-centred access

The clinic offers immediate appointments for acute conditions on a same-day basis. Clinic sessions should also happen after office hours when working family members are free to bring the seniors to the clinic. It is ideal to have after-office-hours emergency consultations as health and care crises in complex

patients can happen at any time of the day. Otherwise, a summary of medical conditions and the care plan should be available to the patient in case an alternative medical consult is required in an emergency.

3. Team-based care

An Interdisciplinary Health Team is defined as a committed group of care professionals who respect one other, share the same Goal of Care, share the same Plan of Care, and have a process of open communication towards alignment of the above. Each member of the team contributes in accordance to his or her competence and skills, and in coordination with the function of others. http://whqlibdoc.who.int/publications/9241544260_part2_chp1.pdf.

The needs of frail seniors can be intertwined and complex, frequently requiring more than one discipline and requiring situational leadership to meet the needs.

While many family physicians do not hire nurses or other healthcare workers, they can nevertheless collaborate with professionals from other community-based health and social care services as a team.

The most important factors for collaborative teamwork are listed above: a shared goal and plan of care, as well as a process of open communication towards alignment.

4. Special attention during transition

Frail seniors are vulnerable when there is a change in care settings with a different set of healthcare providers, such as when they are admitted to a hospital. The family could be in crisis, and the elderly person might be confused, weak, and sometimes disempowered. Continuation of information, such as the patient's past history, medication list, premorbid function, social situation, and personal goals and priorities, is particularly important so that the hospital teams do not over- or under-investigate or treat any health conditions the patient may present with. It is useful that the family physician should communicate with the hospital teams or the specialists in the outpatient clinic for a proper "hand-off".

It is also true the other way round, when a frail senior is discharged from prolonged hospitalisation. There could be a new functional and medical status that the caregivers may not be fully prepared for. The family physician should review the patient early after a discharge to be updated on the new health status and to provide advice and support to the caregivers.

Useful Clinical Care Processes for Complex Seniors

1. Comprehensive needs assessment

Using Peddleton's Seven Tasks in the Consultation (1987) Model¹⁰, tasks 1 and 2 are included here.

Comprehensive needs assessment is required for all frail seniors. A special clinical assessment format can be developed with reference to the items listed in Table 1. Otherwise, the family

physician may want to use a standardised tool such as the EASY-Care assessment¹¹. This has been tested for acceptability in Singapore. The advantage of this tool is that a trained lay person can administer it on a senior who is without significant cognitive impairment and in a setting that offers privacy and comfort, to talk about his/her needs. The family physician has to review the answers and develop a "problem list" with the patient. With this, the family doctor can rest assured that the patient has received a fairly thorough assessment.

Apart from a comprehensive assessment format, clinicians may want to be familiar with some psychometric tools such as the Mini-mental State Examination, the Geriatric Depression Scale, the Katz Index of Independence in ADL, Lawton IADL Scale, Fried's Index or FRAIL Scale, among many others. These can be used to screen, aid diagnosis, track response to treatment, and sometimes prognosticate.

With a Comprehensive Needs Assessment, covering the weaknesses, the strengths and resources as well as the patient's goals and motivations, the family doctor can formulate a "care foci list" to be used as a basis for a care plan.

2. Care planning

A care plan is an organised and systematic approach to therapy. It is crucial if the patient has multiple, cross-disciplinary, and complex needs. It is especially useful for a multi-disciplinary team in regular and frequent communication with one another. So, a care plan is a "Memorandum of Understanding"; a "to-do" list; a guide in managing the patient during the planned period; a document of Care Plan Goals, Care Foci, and Interventions.

There are many ways to develop a care plan. The Tasks 3 – 6 of the Peddleton model of consultation is an example. It is most important that the care plan should be built based on the patient's and family members' overall ideas, concerns and expectations (ICE).

Table 2: Care Plan Format with a Case Example

Mdm A is an 82-year-old lady living alone independently but supported by her four children who do not live with her. She was recently discharged from the hospital after a fall that did not result in a fracture. She is fearful of further falls and is quite demoralised. You have been her family doctor for years. In your comprehensive needs assessment, you identified that she is depressed and worried about being a burden. She cannot articulate her own goal, except that she feels like a burden to everyone. She was brought in by her daughter. She has 10 medications and 4 specialist outpatient appointments. She is still independent in her basic ADLs.

3. Medication and specialist appointment review

Many frail seniors suffer from multiple co-morbidities and are sometimes under the management of many specialists from the hospital, and as a result are frequently taking too many medications¹². It has also been documented that more than 50 percent of seniors are taking more than one drugs that are not medically necessary¹³.

Table 2: Care Plan Format with a Case Example

Overall goal of care: Rehabilitation to regain confidence				
Care Foci	Treatment goal	Interventions	Action by	Check
Hypertension; hyperlipidaemia; diabetes mellitus	Optimal control without being excessive	Review medications for hypertension, diabetes and indication for cholesterol treatment	Dr	X
Fall risk: postural hypotension, ?sarcopenia	Reduce fall risk	Assess for fall risk at home Refer Day Rehab Centre BMD and Vit D assay Review antihypertensive drugs Detailed diet and hydration history	Day Rehab therapist Clinic assistant to initiate Dr to discuss with family at next visit Dr Clinic assistant	X
“Fear of Further Falls” low mood	Increase confidence	Refer Day Rehab Centre	Day Rehab	
Malnourishment/ ?Frailty	Reverse frailty	FRAIL scale to monitor Day Rehab for exercises Add Propass to drinks and beverages	Dr (next visit) To inform Day Rehab about this Dr (next visit)	
Emergency support	Prevent long lie after a fall	To discuss with family. For family conference next visit To research on options: sensor, AIC Silver Pages	Dr (next visit) Clinic assistant to organise Clinic assistant	
Needs help in medications, house chores, and cooking	Medication safety, home hygiene, nutrition	To discuss with family at family conference To research on options	Dr (next visit) Clinic assistant to organise Clinic assistant	

Apart from the risk of adverse drug reactions, there is also a substantial financial burden due to polypharmacy, and the many specialist outpatient appointments. Family doctors are in a well-placed position due to his or her expertise and the accessibility to the patient, to review the indications of each medication and each of the specialist appointments, coordinating between the patient and the other members of the care team. Sometimes, a phone call is needed to communicate with the specialists to know the goal and plan of care. This is not an easy thing to do and can be time consuming. However, the effort in rationalising care will go a long way in improving quality of care, the care experience and the well-being of the patient.

4. Care communications

Generally, explaining the various diagnoses and care foci while engaging the patient with the proposed care plan in an exploratory stance is very helpful in achieving quality care.

Specifically, Advance Care Planning (ACP) has been most impactful in the palliative care context and there is plenty of evidence to support the practice of advance care planning in improving the doctor-patient relationship as well as the surrogate decision-makers' understanding of the patient's preferences related to end-of-life care¹⁴. In practice, ACP is relevant to all patients with a serious illness, such as dementia, heart failure, or stroke.

Another useful communication intervention is conducting a family conference. Some preparation is necessary. Table 3 lists the steps involved in conducting a family conference.

5. Support for caregivers

Frail seniors who need help in basic ADL, IADL, or just supervision in order to be safe at home depend on their caregivers, who could be a daughter or son, daughter- or son-in-law, an equally aged spouse, or commonly in Singapore, a foreign domestic helper. Caregiving is tough physically and can be draining emotionally¹⁶. However, if well supported, it can be the most precious and rewarding thing one can do for one's family members.

The family physician has a role in supporting caregivers. Explaining diagnoses and care options, co-creating a care plan with caregivers and researching with them the various community aged care resources are also very helpful. If the family doctor is comfortable, giving the patient and caregivers his/her contact number will allay a lot of anxiety, especially for patients with unstable medical conditions. Sometimes, just by asking "How are you?" and giving a word or two of encouragement will go a long way in supporting them on this arduous and at times lonely path.

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Table 3: Steps in Conducting a Family Conference

Family Meeting in 9 Steps¹⁵:

- 1. Preparation;**
- 2. Establish the proper environment;**
- 3. Introductions and relationship building;**
- 4. Patient/family understanding of condition;**
- 5. Medical review/summary;**
- 6. Reaction/questions;**
- 7. Set goals and negotiate options;**
- 8. Translate goals into care plan; and**
- 9. Wrap up and document.**

¹ Adapted from Fast Facts and Concepts #222 and #223. Weissman DE, Quill TE, Arnold RM; Palliative Education Resource Center, Medical College of Wisconsin. "Preparing for the Family Meeting". Fast Facts and Concepts #222. www.eperc.mcw.edu/fastfact/ff_222.htm and "The Family Meeting: Starting the Conversation". www.eperc.mcw.edu/fastfact/ff_223.htm. December 2009. Accessed on 19 September 2016.

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LEARNING POINTS

- **Frail seniors are at risk of not managing themselves due to the interplay of biophysical, psychological and the socio-environmental factors. Caring for frail seniors begins with a comprehensive needs assessment.**
 - **The motivations and expectations of a frail senior are sometimes not obvious or even counter-intuitive. It is crucial that the clinician should explore skilfully with the patient for a meaningful goal of care.**
 - **Care plans for frail seniors should include a review of medications and specialist appointments, as well as therapeutic communications and caregiver support.**
 - **Primary care takes the lead in facing up to the challenge of an ageing population. All stakeholders, including policy makers, family physicians, hospital teams, the media and the lay public should support good primary care models, such as the "Patient-centred Medical Home", Age-friendly Primary Healthcare Centres, and Home-based Primary Care.**
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